

REMARKS

Claims 18-20, 23, 25-67, 69, and 71-108 are pending in this application. Claims 35-66, 95 and 97-104 have been allowed. Claims 18-20, 23, 25-34, 67, 69, 71-94, 96, and 105-108 have been rejected. By this response, independent claim 18, 67, and 86 have been amended without introducing new matter. Claims 18-20, 23, 25-67, 69, and 71-108 remain pending.

Interview

Applicants note with appreciation the courtesies extended to their representatives, Michael A. Patané and Suzanne H. Goodson, during the April 26, 2006 telephone interview and subsequent conversations. In a follow up conversation, Examiner Hopkins suggested independent claims 18, 86, and 88 be amended to clarify that the two or more reagents include an oxidizing agent and another reagent useful in forming the hydroxyl radical by contacting the oxidizing agent. This response is consistent with those discussions.

Allowed Claims

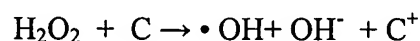
Applicants note with appreciation the indication on page 4 of the Action that claims 35-66, 95, and 97-104 have been allowed. No amendment or reasoning presented herein negatively affects the Allowability of these claims. Applicants also note that page 5 of the Office Action indicates that the remaining claims would be allowable if rewritten or amended to overcome the 35 U.S.C. § 112 rejection. Applicants respectfully assert that the claims have been so amended and respectfully request indication of allowance along with the previously allowed claims, 35-66, 95, and 97-104.

Claims Rejections – 35 U.S.C. § 112

Claims 18-20, 23, 25-34, 67, 69, 71-94, 96, 105-108 stand rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to satisfy the enablement requirement. The Action suggests that only the combination of hydrogen peroxide and ozone, and the combination of hydrogen peroxide and iron are shown to produce the hydroxyl radicals. As discussed during the interview, Applicants respectfully assert that those of skill in the art would be aware of many reactions that lead to the production of hydroxyl radicals, as required by independent claims 18, 86, and 88. In support of this position, the 1981 text, Principles of Polymerization, pages 201-205 were provided to the Examiner and are submitted herewith as an Attachment. The reference indicates, on page 202, that peroxide with a reducing agent can be used to produce radicals. Thus, it was well known in the art that hydrogen peroxide (HOOH) along with iron, chromium, vanadium, titanium, cobalt, or copper ions can be used to produce hydroxyl radicals (see Equations 3-36a to 3-36c and surrounding text). Equation 3-36d suggests that other organic peroxides can be used to produce hydroxyl radicals. Thus, those of skill in the art, at least as early as 1981 would have known that hydroxyl radical production is not limited to the combinations recognized in the Office Action.

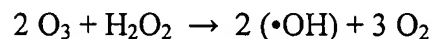
Page 13 of the original specification lists several reagents useful in remediation techniques. Applicants respectfully assert that those of skill in the art will recognize that several of these reagents are capable of forming hydroxyl radicals upon contacting an oxidizing agent such as hydrogen peroxide. Without wishing to be bound by the theory, Applicants believe hydroxyl radicals can be formed at least according to the following exemplary reactions:

Hydrogen peroxide will react with iron to form hydroxyl radicals:

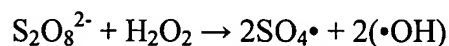


C = Iron or other metals; • OH = Hydroxyl Radicals

Hydrogen peroxide will react with ozone to form hydroxyl radicals:



Hydrogen peroxide will react with persulfate to form hydroxyl radicals (as well as sulfate radicals):



Accordingly, Applicants have amended independent claims 18, 66, 67, 86 and 88, in accordance with the Examiner's helpful suggestions, to clarify that the "two or more reagents" include an oxidizing agent and a reagent capable of forming hydroxyl radicals by contacting the oxidizing agent. Support for this amendment can be found throughout the specification and claims, which clearly indicate the use of an oxidizing agent, such as hydrogen peroxide, and an agent such as ozone, iron, persulfate, etc. which is capable of forming hydroxyl radicals by contacting the oxidizing agent.

Applicants note with appreciation the Examiner's indication that these amendments should overcome the outstanding 35 U.S.C. § 112 rejection.

Double Patenting

The Action indicates that upon allowance of claim 18, claims 86 and 88 would be objected to under 37 C.F.R. § 1.75 as being substantial duplicates of claim 18. Although Applicants do not necessarily agree with this reasoning, claims 86 and 88 have been amended, pursuant to the Examiner's suggestion, to include the limitations of the preamble into the body of claims 86 and 88. Accordingly, these claims, and claims dependent therefrom are now in condition for allowance.

The Commissioner is hereby authorized to charge any fee or underpayment thereof or credit any overpayment to deposit account no. 50-1275.

Applicants note with appreciation the Examiner's indication that the amendments described herein should bring about allowance of the case and respectfully request early reconsideration and allowance of all pending claims. The examiner is requested to contact the undersigned attorney if an interview, telephonic or personal, would facilitate allowance of the claims.

Respectfully submitted,

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